Massachusetts Bioterrorism Hospital Preparedness Program

Cooperative Agreement 1 U3R MC 00023-01
Health Resources and Services Administration
U.S. Department of Health and Human Services

IMPLEMENTATION PLAN

A. BACKGROUND AND HISTORY

1. Historical Experience with Bioterrorism Events

Massachusetts was heavily impacted by the post-9/11 "epidemic of fear". It created a serious strain on available state and local resources, and prompted an immediate need to organize a mutual aid-type response for a bordering state (New York) in the event that human, medical or physical resources and equipment were necessary. A few of the key activities included:

- MDPH, as a member of the Massachusetts Emergency Management Team (MEMT) staffed the Massachusetts Emergency Management Agency (MEMA) bunker in Framingham around the clock, 24/7, for three days to coordinate all public health (ESF-8) efforts.
- MDPH, utilizing the 5 EMS Regions and their associated C-MED communication systems, worked with the Massachusetts Hospital Association (MHA) to 1) ensure that all emergency departments would remain open to ambulance traffic, and 2) identify available bed capacity should it be needed. This was done through a system of bed checks every two hours.
- MHA worked with its members to ensure that elective procedures were canceled, and as many patients as possible were either discharged to home, MDPH hospitals or to sub-acute settings. A total of 1200 beds were made available in less than a day.
- The MDPH Office of Emergency Medical Services (OEMS), working with EMS and private ambulance services and the C-MED systems, identified 125 ambulances (25 from each of the five EMS regions) that could be dispatched to New York. MDPH granted an immediate paramedic waiver so that each ambulance could be staffed with a single paramedic.
- MDPH, working with MEMA, Red Cross, Massachusetts Nurses Association (MNA), Massachusetts Medical Society (MMS) and others, developed lists of health care workers willing to volunteer services and inventoried available medical supplies and equipment.
- MDPH worked with MEMA and the Federal Aviation Administration (FAA) to arrange for immediate shipment of 500 units of blood from the Massachusetts Red Cross to New York.
- MDPH worked with the MHA and hospitals to establish temporary intra-state blood availability network so that hospitals could share excess blood being donated. This allowed the Red Cross to concentrate its efforts on supplying blood to the disaster regions.
- MDPH worked with the New England Organ Bank and the Air National Guard to ensure that donated organs could be flown to other states while commercial air traffic was grounded.
- MDPH worked with corporations that produce special biotech products (like artificial skin) to make these products available to disaster victims in New York, if needed.
- MDPH worked with the MHA and the Red Cross to establish a schedule of blood drives over a 2-month period when blood might still be needed after the disaster.
- MDPH monitored ambulance diversions at Massachusetts's hospitals closely, and prepared to take hospitals off diversion, if needed, to receive disaster victims from other states.

As a result of the "epidemic of fear" around anthrax that began in mid-October, the MDPH again requested partial activation of the MEMT at the Framingham MEMA bunker and, along with numerous other state and local agencies, coordinated an unprecedented two-month period of responding to calls (24/7) concerning white powders, suspicious letters and packages and other assorted items. Considerable resources were invested in efforts to calm the fears of the public, and to educate health care providers and public safety first-responder agencies about anthrax contamination. Activities during this time period included:

- MDPH conducted a series of five regional educational sessions on topics related to infectious disease control, anthrax, laboratory science, local public health, emergency management and HAZMAT throughout October and November 2001. Hundreds of local first responders (fire and police), emergency management directors, health officials, and hospitals attended the trainings. Several dozen other community and hospital-based seminars were presented by staff of MDPH, MEMA, local public health, public safety and fire service officials upon request.
- MDPH worked with the MHA, MMS, and other associations of health plans, local health officials and health centers to convene a series of periodic dial-in telephone conferences throughout the fall and early winter to address the on-going concerns that resulted from anthrax and from the intensive media coverage given to the continuous "heightened state of alert".
- MDPH developed informational advisories and updates concerning the status of the anthrax (and other potential infectious disease) and continuously updated its website.
- MDPH sampled and tested over 3000 suspicious powders, letters and other assorted items for possible anthrax contamination.

Prior to 9/11, MDPH had experienced isolated hoaxes or threats involving anthrax. Protocols for rapid response to the scene, sample collection, transports and testing were in place and the MDPH BL-3 (biological level 3) laboratory was up and running as a result of the original CDC cooperative agreement.

A comparable MDPH response occurred in 1984 in response to the Tylenol cyanide tampering events. A small number of "real" incidents of cyanide adulteration of over the counter (OTC) medications in other states led to many hundreds of reports in Massachusetts of what eventually were determined to be product manufacturing discrepancies. Subsequent tampering hoaxes and threats of intentional biological or chemical adulteration of the food supply resulted in many products either being embargoed by MDPH or voluntarily removed from distribution and retail, and MDPH performance of testing to rule out biological, chemical or pharmaceutical adulteration.

2. Current MA Emergency Planning Efforts

- ***Local Health Agencies:*** Massachusetts has a system of home rule local government with 351 self-governing cities and towns with widely varied public health capacities and no functional county government structure. While a limited number of communities have collaborated to share scarce resources, each city and town is required to have it's own board of health or health department

.

- ***Hospitals, EMS and other inpatient facilities:*** There are 120 acute and chronic hospitals in the state, of which approximately 75 have emergency departments. While the EMS services are organized under five regional councils, the hospitals are not organized by region at present. The following chart summarizes acute care hospitals and hospitals beds, along with staffing and EMS data, within each of the five EMS regions.

Massachusetts EMS Regions	Region 1 (Western Mass EMS)	Region 2 (Central Mass EMS)	Region 3 (NorthEast EMS)	Region 4 (Metropolitan Boston EMS)	Region 5 (Cape & Islands EMS)
Cities/Towns	97	74	49	61	70
MA Population: Year 2000 Census	806,720	864,655	1,245,800	2,153,106	1,272,099
Acute Care Hospitals	12	12	14	27	13
Acute Care Hospital Beds*	1,926	1726	2320	7643	1296
Total RN FTEs	3,712	2,732	3,109	12,778	3,008
Total MD FTEs	186	149	150	3,481	170
Total Licensed Ambulance Services (Basic, Intermediate, Paramedic)	50	67	40	64	79
Paramedic Ambulance Services	17	27	13	22	60
Total Ambulance Vehicles	106	136	175	651	237

** Based on Year 2000 Massachusetts Hospital Association Survey of Acute Care Beds. Please note Survey reports all Cambridge Health Alliance System Hospital beds (three hospitals: two in Region 4, one in Region 5) as one total. Likewise, Caritas Christi Hospital System Hospital beds (seven hospitals: four in Region 4, two in Region 5, and one in Region 3) are reported as one total.*

There are four MDPH hospitals with 800 beds providing mostly chronic care, five Department of Mental Health (DMH)-operated hospitals with 1060 inpatient beds, and ten DMH licensed hospitals with 891 inpatient beds throughout the state. MDPH licenses 26 chronic/rehabilitation hospitals, 561 nursing homes, 16 school infirmaries and 29 ambulatory surgical centers. These need to be characterized on a regional basis.

Of the above acute care hospitals,

- Nine are small rural hospitals that are (or are eligible for) Critical Access Hospital (CAH) designation. These hospitals all have inpatient censuses of fewer than 20 beds, are the only hospital in their rural service area, meet necessary provider criteria, and provide a variety of inpatient and outpatient services in their community. They serve as the hub of health care activity for their service area.
- Seven hospitals serve communities that meet the federal HRSA definition of rural (RUCAs – Rural Urban Commuting Area Codes). These hospitals are larger than the CAH-eligible hospitals, but because they serve small, rural communities they are the hub of health services for their area.

In addition to providing scheduled "non-emergency" transports, many private services have municipal contracts for emergency (911) ambulance response. There are about 1 million ambulance transports that occur annually in Massachusetts; roughly1/2 of which are considered emergency 911 transports.

***Clinics, health centers and other ambulatory settings*:** There are 366 licensed clinics in MA, but the exact number of free-standing outpatient facilities is not known due to overlaps and gaps that occur among the various state agencies that have jurisdiction over physician's offices, group practices, health centers, clinics, HMOs and other forms of ambulatory care. Massachusetts currently has 48 community health centers (CHC), which are either federally qualified health centers (FQHC), or FQHC look-a-likes. These community health centers are located across the state (but predominately in urban areas) and have more than 100 sites. Five of the CHC's are located in rural areas with 10 different sites and one urban center has a rural site.

Needs assessment of bioterrorism preparedness statewide has been meager. The DOJ/CDC survey completed in 2000-2001 included indirect information on the status of hospital or EMS preparedness through the eyes of the 97 municipal agencies that completed the surveys.

Preliminary meetings with the two newly convened statewide bioterrorism advisory committees (the Bioterrorism Preparedness and Response Program Advisory Committee and the Hospital Bioterrorism Preparedness Committee) have indicated that there is a definite need for an integrated statewide assessment of resources and capacity to respond to bioterrorism, infectious disease outbreaks and other wide-scale public health problems.

3. Existing Collaborations

Hospitals and EMS: EMS 2000 (as required by a state law enacted in March 2000) establishes an integrated emergency medical response system in Massachusetts, with significant involvement from both the hospital and pre-hospital community. Under development for almost a decade, the statute calls for the establishment of a statewide system of quality emergency medical care. A statewide Emergency Medical Services Advisory Board (EMCAB) established by the Department makes recommendations on all EMS-related regulations, and has adopted statewide treatment protocols. Five Regional EMS Councils play vital roles both in coordinating regional EMS activities and in assisting the Department in the areas of trauma system development, service zone planning, communications system development, and effective medical oversight of pre-hospital services.

A number of committees and task forces have been established to address specific issues and initiatives, including the Ambulance Diversion Task Force, the State Trauma Committee (and its four working subcommittees: Designation, Clinical, Registry/Data, Prevention/Public Education), and a Medical Control Task Force (examining medical oversight of EMS). In addition, the EMCAB and its various committees (including Medical Services, Public Information/Education, Communications, Mass Casualty Incident

(MCI), Legal/Regulatory, and Executive) provide advice to the Department in policy and programmatic areas related to EMS. Similar committee structures are established at the Regional Council level as well.

MassGIS: The Massachusetts Office of Emergency Medical Services (OEMS) works closely with the Massachusetts Geographic Information System Office to increase the use and sharing of digital mapping to enhance analysis of emergency response resources. Massachusetts is a pilot site for one of the Defense Department's National Imagery and Mapping Agency's Homeland Security/ 120 Cities Initiatives. MassGIS works with OEMS to fulfill Federal homeland defense and emergency responder geospatial data requirements and documented base cartographic data and mechanisms for effective updating of data.

MMRS: There are three federally designated MMRS (Metropolitan Medical Response Systems) in Massachusetts. All three cities participate actively in the MDPH's Advisory Committees, and have expressed interest in coordinating their efforts with the MDPH's statewide plan.

COBTH: The Conference of Boston Teaching Hospitals (which includes 12 of the largest hospitals in the state) has had an active EMS Committee for several years, and has developed a detailed assessment of current disaster planning needs.

Rural Health: The MDPH Office of Rural Health, in conjunction with the Massachusetts Rural Health Network, MDPH Rural Health Advisory Council and the New England Rural Health RoundTable, has begun a process to solicit information and obtain input on planning and development efforts.

Western MA: Two regional Local Emergency Planning Committee's (LEPC's), representing 45 cities and towns in Franklin and Hampshire counties, have developed a preliminary proposal post-9/11 to establish hazardous material response programs, that are not bioterrorism or public health emergency-specific.

Local Heath Departments: MDPH works closely with all 351 local health departments in the enforcement of public health laws, and in establishment of prevention programs. Reporting of diseases generally occurs at the local level and data is then transmitted to MDPH. Numerous efforts have been initiated to coordinate the various statewide organizations that represent the 351 local public health agencies. The Local Health Coordinating Council (which is chaired by the Commissioners Public Health and Environmental Protection and consists of key representatives of the major public health organizations in the state), and a newly-formed Local State Bioterrorism Coordinating Committee will play a significant role in identifying gaps and overlaps in the public health infrastructure at the local level. The DOJ survey results from 97 cities and towns with populations greater than 25,000 has been received and is being evaluated.

MEMA: The Massachusetts Emergency Management Agency (MEMA) coordinates federal, state, local, and private resources throughout the Commonwealth during times of disaster and other types of emergencies. With headquarters in Framingham and four regional offices, MEMA helps develop response plans for all types of hazards, trains emergency personnel, and assists communities in responding to and recovering from emergencies. MEMA maintains and operates the State Emergency Operations Center (SEOC), which monitors for emergencies statewide 24 hours a day, 7 days a week. The SEOC serves as the command and control center for the Commonwealth during an emergency. Fully activated, the SEOC is staffed according to 16 Emergency Support Functions (ESFs). The many federal, state, local, volunteer, public and private organizations that comprise the ESFs are part of the Massachusetts Emergency Management Team (MEMT). The MEMT is coordinated through and trained by MEMA. The Department of Public Health heads ESF 8 – Health and Medical Services.

An organizational chart (ATTACHMENT A) that shows the lead agencies involved in the MEMT is attached, as well as a summary (ATTACHMENT B) of the MDPH role in Emergency Response. As referenced above for the anthrax and WTC events, some or all of the ESFs are activated by MEMA dependent on the situation that has occurred. At MDPH's request, the appropriate ESF agencies will be activated to provide necessary support functions in the event of a public health emergency.

4. Description of current antiterrorism and disaster planning initiatives:

The Governor has established a new Office of Commonwealth Security (similar to the federal Office of Homeland Security) and one of its top priorities is bioterrorism response. This group has identified the identical areas of concern to be addressed by the HRSA and CDC cooperative agreements, and

members of this group are included in the membership of the Hospital Preparedness Planning Committee (HPPC). Some EMS planning resources are also being made available as a result of EMS 2000 (also see descriptions of initial development of web-based diversion status system below).

Development of a complete inventory of statewide antiterrorism and bioterrorism initiatives involving hospital and EMS outpatient systems will be undertaken as part of the HRSA, CDC programs and MMRS. (OBJECTIVE)

Three planning initiatives currently underway through the Department will support bioterrorism and disaster planning and preparedness:

- The Emergency Medical Care Advisory Board's (EMCAB) Multiple Casualty Incident (MCI) Committee has developed a guidance document for local communities to use for MCI planning and evaluation, with emphasis on emergency medical response and how it fits in to the Incident Command structure. Once finalized, the guidance will be sent to local communities for use in plan development. (OBJECTIVE)

- The Department has also established a Flu Pandemic Planning Committee which has developed a draft Template for Local Infectious Disease Emergency Planning and Response. This document will provide guidance to local communities in the development of an Infectious Disease Emergency Plan, with the focus on the role of the local health department. (OBJECTIVE)

- The EMCAB's Communications Committee is revising the Statewide Communications Plan (which was last updated in the mid-1980s) and expanding its involvement and coordination with other initiatives in the Department, including the Health Alert Network (HAN) and ambulance diversion internet notification system (OBJECTIVE)

5. Current status of hospital, outpatient and EMS systems with respect to patient flow, bed capacity, overcrowding, diversion, and surge capacity

Considerable attention has been given to the issue of emergency room over-crowding and ambulance diversion over the past two years. This has resulted in a series of Best Practice documents that have been issued to hospitals and ambulance services throughout the state. An electronic internet-based web site, that monitors hospital ED diversion status was piloted last year, and has now become a required tool for use by all hospitals and ambulance services.

Current data suggests that Massachusetts's hospitals (at least in some areas of the state) are reaching capacity limits. A survey conducted in February 2001 suggests that, by some measures of occupancy, the major teaching hospitals in Boston are frequently at capacity.[1] The EMS regions have been reporting the number of hours that hospitals have been on diversion for the past several years. *These data show* dramatic increases in diversion, with the number of hours doubling each year. These increases are of particular concern because they have occurred in spite of mild flu seasons.

Hospitals in greater Boston (EMS Region IV), in particular, have seen a steady increase in hours on diversion. During CY 2000, Boston area hospitals were on diversion for 5,641 hours. That number increased by 86% in CY 2001 to 10,499 hours. CY 2002 has continued the trend with Boston area hospitals on diversion for 2,600 hours during January and February 2002.

[1] *The occupancy rate in the Boston EMS region was at 96%, based upon the noon census divided by staffed beds*

B. NEEDS ASSESSMENT

Status of Assessments and Timelines: The following sections identify the respective status of surveys necessary to assess unmet needs of the hospital, EMS and outpatient communities. Plans to assess needs of the local health community through use of the Emergency Planning Response Inventory (EPRI) tool is described in response to the CDC cooperative agreement, Focus Area A, Preparedness Planning and Readiness Assessment. Additional Needs Assessments that are important to the HRSA cooperative agreement are included in Focus Areas B (Epidemiology and Surveillance), Focus Area E (Health Alert Network), Focus Area F (Risk Assessment), and Focus Area G (Education and Training).

See Attachment C for a preliminary timeline and milestones for the MEASURABLE OBJECTIVES specified in this proposal, and the development of plans based on the completion of the Needs Assessment process.

Database Development: The needs assessment and survey processes will result in a series of databases that include all hospitals, outpatient facilities, EMS systems and poison control centers. These databases will be used to construct emergency response manuals that will be broadly disseminated. Information needed for 24/7 emergency contacts will be included as well as the level and types of services, resources or capacity that may be available. (OBJECTIVE)

Hospitals: The Massachusetts Hospital Association (MHA), in cooperation with the MDPH, developed a 9-page Terrorism Preparedness Survey that was sent to all hospitals on February 13th. The survey was adapted in part from the American Hospital Association "checklist" and the American Association for Professionals in Infection Control and Epidemiology's "Mass Casualty Disaster Plan Checklist: A Template for Health Care Facilities". This survey assesses the current capacity of hospitals to respond to a bioterrorism event, and has been geared to identify hospitals' specific needs in areas such as education, policy guidance, communications and additional resources. At present, about 60% of the acute and chronic hospitals have returned the survey, and follow-up with remaining hospitals has begun.

The survey includes a series of questions in each of the following areas:

1.0 Planning and Coordination
2.0 Communications and Notification
3.0 Personal Protective Equipment
4.0 Facility Management/Security
5.0 Negative Pressure Rooms
6.0 Renovations
7.0 Dedicated Decontamination Facilities
8.0 Pharmaceutical & medical Supplies
9.0 Training & Personnel
10.0 Capacity
11.0 Access
12.0 Additional Questions

Because the Hospital Survey was developed prior to the issuance of the HRSA Guidance for this cooperative agreement, additional or supplemental questions may be required in order to address some of the Needs issues identified in the February 15th HRSA document.

Contract funding will be made available to MHA to complete the survey and preliminary Needs Assessment process, and development of proposed benchmarks. (OBJECTIVE)

The Massachusetts Hospital Preparedness Planning Committee (HPPC) or a designated subcommittee will review the benchmarks for optimal hospital capacity in each of the areas surveyed. The Committee will identify those benchmarks that signify goals for all hospitals, as well as some that may vary according to the level of services provided by the facilities in accordance with a regional hospital planning process. (OBJECTIVE)

Once the current capacities are measured against the benchmark goals, a formal determination of needs process will begin. The needs assessment process will be a product of consensus building, collaboration, and coordination within each region and across the state. The major product of the needs assessment will be a listing of priorities for the HPPC to address in order to make recommendations to MDPH as to revised funding allocations for the First and Second Priority Planning Areas. (OBJECTIVE)

EMS/Ambulance Services: The MDPH Office of Emergency Medical Services, in collaboration with the five EMS Regional Councils, has initiated a Disaster Preparedness survey of all 301 ambulance services in the state. The purposes of the survey are to: (1) determine the capacity of ambulance services to respond to natural or man-made disasters, including incidents of bioterrorism within Massachusetts; (2) determine the capacity of services to develop regionalized task force/strike teams to respond to natural or man-made disasters, including incidents of bio-terrorism throughout Massachusetts and bordering jurisdictions; (3) assess current levels of training for regional emergency response professionals; and (4) assess the availability of specialized equipment in the EMS Regions. (OBJECTIVE)

Because the EMS/Ambulance Survey was developed prior to the issuance of the HRSA Guidance for this cooperative agreement, the addition of supplemental questions may be required to address some of the Needs issues specified in the February 15th HRSA guidance document.

Contract funding will be made available to complete the survey and preliminary Needs Assessment process and development of proposed benchmarks by month 3 of the project. (OBJECTIVE)
A similar process of benchmark development, HPPC review and MDPH recommendations will be carried out.

Community Health Centers, Clinics and Other Ambulatory Services: The HPPC will advise MDPH on the development of a survey/needs assessment process similar to ones being conducted for hospitals and EMS. The HPPC will inform MDPH about the use of ambulatory care sites (such as community health centers, clinics and other non-acute care non-institutional settings) which can be utilized as an adjunct to hospitals for initial assessment and treatment of patients. A Needs Assessment will be developed to determine the resources available at these sites and what additional resources may be necessary to increase the overall capacity of the emergency response system. (OBJECTIVE)

A proposed needs assessment has been received from the state Poison Control Center and will be reviewed by the HPPC. (OBJECTIVE)

Rural Hospitals and Health Centers: The MDPH Office of Rural Health, in collaboration with MHA, will analyze information from the MHA survey of rural hospitals to identify and better plan for the unique needs and potential capacity of the CAH-eligible and rural hospitals. Because of the unique needs of rural hospitals (the broader role they typically perform in their communities and the fact that they often lack community and public health services typically found in urban areas), a more thorough and in-depth needs assessment will be conducted to supplement the MHA survey, and to plan for a network that truly extends statewide. Additional information will be collected from surveys and follow-up interviews to better understand rural needs, identify current network relationships, current capacity, current and potential roles related to bioterrorism preparedness in their community or region, and ways MDPH may be able to better address these needs through avenues such as rural telemedicine, distance learning, and telecommunication linkages, additional rural health network development, and promoting enhanced collaborative local and regional rural efforts, etc. (OBJECTIVE)

Specifically Identified Needs: Most capacity or inventory assessments are covered in either the hospital (or pre-hospital) surveys. Where specific questions are needed to adequately assess all of the issues itemized in the HRSA guidance, supplemental survey questions will be developed. Preliminary comments on several of the issues are summarized as follows:

1. ***Reconfiguration of hospital space for quarantine and treatment***

Massachusetts's hospitals have undergone considerable downsizing in the past several years. Many hospitals have lost licensed beds; bed space has been converted to other uses or "mothballed". As a result, more hospital space may be available for quarantine than is readily apparent. The MHA survey

will provide, on a hospital-specific basis, space available for possible use for quarantine, as well as suitable "back-up" space that may be available in nearby locations such as nursing homes, clinics and schools. Space that could be utilized in the many hospitals that have closed over the past 10 years, many of which have been converted to non-acute health care uses, will also be explored. (OBJECTIVE)

2. ***Management of unsolicited clinical help and donated items***

In the immediate aftermath of 9/11, MDPH, in collaboration with the MHA, MMS, MNA and the respective state Boards of Registration, determined that a centralized registry of volunteer health professionals should to be created. The HRSA and CDC cooperative agreements will provide the resources needed to create such a registry and will also support resources required for the development of the Massachusetts plan for the National Pharmaceutical Stockpile. As part of the response to the anthrax events of October, 2001 MDPH, working with the Board of Registration in Pharmacy, generated an initial list of volunteer pharmacist resources for this purpose, and formed a workgroup to develop a formal registry.

A plan for donated items (also a problem experienced post-9/11) will be developed in conjunction with the Massachusetts Emergency Management Agency and respective ESF voluntary agencies. (OBJECTIVE*)*

3. ***Availability of personnel***

Recent HRSA surveys show that Massachusetts has more nurses per capita than almost any other state. HRSA Workforce data also shows that over 80% are currently working in health care. Notwithstanding the high per capita number of working nurses in the Commonwealth, Massachusetts is still experiencing a shortage in nursing and in other healthcare workforce segments. The needs assessment will quantify the number of nurses and other support personnel necessary to care for the influx of patients under a variety of scenarios. Numerous metrics are available to perform such a calculation, and these will be adjusted to incorporate predictions about the numbers of persons who are symptomatic but not affected by the bioterrorist event who are likely to seek treatment ("worried well").

This analysis will result in a matrix that will compare the incremental need for skilled personnel at various levels with potential sources of manpower to meet that need. For example, an increased caseload of 100 patients might be met by bringing licensed nurses to hospitals as "moonlighters", while an increase of 1000 cases might require the early credentialing of nursing students.

The end result of this planning effort will be sets of work force requirements associated with various levels of threat. The appropriate state licensing board will be tasked with developing special expedited professional credentialing procedures for each level (OBJECTIVE)

4. ***Collaboration between hospitals and EMS systems that support effective diversion and referral plans***

MDPH has already engaged the hospital and EMS communities in a collaborative planning process around diversion issues. As discussed previously, common definitions have been agreed upon, and expectations concerning the behavior of hospitals (e.g., when it is appropriate to go on diversion) and ambulance services (under what circumstances a hospital's diversion status should be honored). By common agreement, when contiguous hospitals are so stressed that they must go on diversion, then all hospitals in that region must come off diversion. (OBJECTIVE)

The following HRSA-identified issues are not covered in the surveys, and are issues for which the Hospital Preparedness Committee will be asked for additional input.

5. ***Needs of children, pregnant women, limited English speakers, the elderly and those with disabilities***

Special populations identified in the HRSA guidance will require the development of specialized protocols for diagnosis and treatment. The HPPC will advise on the priority for developing protocols and procedures for identified special populations – with emphasis on children, the elderly, limited English-speaking, and those individuals who are mentally or physically challenged. Considerable interest has

been shown by Children's Hospital of Boston in the development of a comprehensive set of protocols for children that could be used by facilities throughout the state and the region. (OBJECTIVE)

The MDPH Office of Minority Health (OMH) is exploring policies and protocols that may be used to address the needs of limited English-speaking populations in Massachusetts. Discussion to date with federal agencies has indicated that no plans are in place or anticipated relative to populations made vulnerable by race, ethnicity or language. The MDPH OMH has drafted a brief assessment of issues that should be addressed relative to bioterrorism. This will be presented to HPPC for review.

The MDPH Office of Disability and Health will assist with special issues of those with disabilities.

The MDPH Bureau of Substance Abuse Services, in collaboration with DMH, is developing a joint website on mental health and substance abuse resources for these special populations. This will include materials, and emergency preparedness strategies for children, elders, families, limited English speakers and individuals with disabilities.

The Massachusetts Department of Mental Health (DMH) has conducted a preliminary needs assessment, and identified recommendations concerning specific needs in the areas of "Second Priority Planning Areas" for Personnel and Patient Transfers (see these sections for further details). DMH has further recommended that psychiatric facilities and units—as well as high intensity treatment programs—be included in needs assessment and planning regarding communication systems, infrastructure development, personnel surge capacity, patient transfer, and evacuation. Because a number of mental health facilities may not be affiliated with traditional hospital associations, additional outreach, data collection, and relationship building may be required. Concerning DMH specifically, the project will ensure that all the bio-terrorism deliverables are made available to the DMH community, both to handle staff, inpatient and community client needs in preparing and responding to an event as well as to deal with any surge in clients should it materialize during a serious event.

6. *Need for linkages to sources of expert consultation and referral centers*

Massachusetts has one designated referral hospital for CDC's Division of Global Migration and Quarantine – Boston Medical Center. MDPH will create a resource list that includes all of the available sources of expert consultation for biological, chemical and radiological exposures. (OBJECTIVE)

7. *Need for essential goods and services such as food, water, shelter and electricity*

This is a large scale planning initiative that will be carried out by the Massachusetts Emergency Management Agency (MEMA), local emergency planning committees (LEPCs) and hospitals, and is a requirement of the JCAHO accreditation emergency planning requirement for all hospitals. A full-time public health staff liaison is being assigned to MEMA in the CDC Focus **A,** Preparedness Planning and Readiness Assessment project. An assessment of state and local emergency planning for the provision of essential goods and services will be provided to the HPPC. (OBJECTIVE)

8. *Any existing gaps in objective data that inhibit planning*

HPPC will be asked to identify gaps in data that inhibit planning. (OBJECTIVE)

Two current database initiatives that would fill gaps in data that inhibit planning are the establishment of a statewide ambulance trip report database and a statewide trauma registry. These databases are necessary to establish current EMS and trauma care capacity and utilization; and are requisite measures needed for planning and needs assessments to respond to bioterrorism.

9. *Technical assistance from the HRSA*

HPPC will be asked to consider a mechanism to further assess this need.

C: CRITICAL BENCHMARKS:

1. Program Direction

Under the overall direction of the Commissioner of Public Health Dr. Howard Koh, the MDPH has identified three senior Assistant Commissioners to head the coordinated development of all assessment, planning and implementation activities that are to be undertaken pursuant to the HRSA and CDC cooperative agreements.

The Assistant Commissioner of the Bureau of Health Quality Management (BHQM), Nancy Ridley, will function as the Principal Investigator for the HRSA Hospital Preparedness cooperative agreement. BHQM has responsibility for oversight and licensing of hospital, outpatient and pre-hospital providers and includes the Divisions of Health Care Quality, Determination of Need, Radiation Control, Food and Drugs, Community Sanitation, Office of Patient Protection and the Office of Emergency Medical Services. Ms. Ridley has over twenty years of experience with MDPH, has extensive experience with emergency planning and is the MDPH lead liaison to the Massachusetts Emergency Management Agency (MEMA).

The Assistant Commissioner for the Bureau of Communicable Diseases (CD), Dr. Alfred DeMaria has functioned for the past three years as the Co-Principal Investigator for the CDC Bioterrorism cooperative agreement. Dr. DeMaria is also the State Epidemiologist. The CD Bureau has oversight over the surveillance, reporting and investigation of all incidents and outbreaks of communicable diseases.

The Assistant Commissioner for the Bureau of State Laboratories (SLI), Ralph Timperi, is the Principal Investigator for the CDC cooperative Agreement. The SLI serves as the statewide site for provision of clinical, environmental and health-related laboratory services and supports prompt diagnosis of diseases, whether of epidemic proportion or rare disease events.

All three are working closely with other key MDPH bureaus such as the Bureau of Environmental Health Assessment, Bureau of Family and Community Health, Bureau of Substance Abuse Services and the Department's Emergency Preparedness Coordinator in the development of integrated proposals for the HRSA and CDC Cooperative Agreements. Meetings are being scheduled to integrate the recently designated MMRS programs (Worcester and Springfield) into this framework, and representatives of these programs, along with the previously-designated Boston MMRS, have been included on the Hospital and statewide bioterrorism planning committees.

MDPH proposes to hire a Hospital Preparedness Coordinator and a Medical Director responsible for implementing the needs assessment and operational plans for bioterrorism preparedness in the state. He or she will be expected to have training and experience in disaster response planning, including knowledge of clinical issues, administrative procedures, linkages to appropriate agencies and organizations, and training issues appropriate to bioterrorism preparedness. MDPH proposes to fill these positions in month 1 of the program and has already started the recruitment process. On an interim basis, staff from HCQ, OEMS and BHQM will convene the HPCC. (OBJECTIVE)

Note: In our Phase 1 submission, MDPH proposed to hire two additional Coordinators for the HRSA cooperative agreement – one for Local Health Preparedness and one for EMS/First Responder/Public Safety Preparedness to serve as a needed linkage to the CDC and MMRS projects. After additional discussions with the Principal Investigators of the CDC agreement (and owing to the relatively small amount of HRSA funding) it has been decided to assign these two positions to CDC Focus Area A – Preparedness Planning And Readiness Assessment.

Hospital Preparedness Coordinator **-** This full time position will be dedicated to hospital bioterrorism planning, coordination and implementation of preparedness initiatives that are already underway. The Coordinator will:

- be responsible for convening large groups (including the HPPC and any needed subcommittees) and facilitating communication and coordination between and among various groups;
- function as the liaison to contractors, the key groups and associations (such as the MHA, MMS, MNA, community and neighborhood health centers, HMOs, Poison Control Center and other organizations)

that are critical to the performance of the needs assessment process and development of the implementation plans;
- monitor and assist with the development of Regional Hospital Plans, including the integration and coordination with EMS Regions and Local Health agency regional planning efforts;
- supervise the development and preparation of all contracts, and provide technical assistance and consultation to contractors;
- supervise the development of database programs;
- supervise the development of surveys and needs assessments as determined by the HPPC;
- identify and assist those hospitals, EMS and MMRS agencies that are implementing hospital emergency preparedness initiatives;
- work with OEMS, HCQ and other MDPH staff to enhance the DPH/hospital emergency; department/bed availability electronic on-line system;
- serve as the liaison to other health-related state agencies, such as the Department of Mental Health, that need to be integrated with the Hospital/EMS Bioterrorism Planning Process; and
- work as a member of a MDPH Bioterrorism Team that includes other HRSA, CDC and other MDPH Bureau personnel.

Note: This is a new position that will be filled once funding is received from HRSA. Qualifications for the position will include hospital experience in infection control, epidemiology, quality assurance, risk management and/or hospital administration. (OBJECTIVE)

Medical Director for the Hospital Preparedness Program will also be either hired (0.5 FTE) or contracted for. This half-time position will be responsible for providing medical direction, expertise, and advice to the Massachusetts Hospital Bioterrorism Preparedness Program. He/she will be required to have a medical background in emergency preparedness, hospital management, infectious disease control (preferred), and emergency medicine (preferred). The Medical Director will assist in the analysis of benchmarks for the needs assessment, and serve as a consultant to MDPH on surveillance systems, mass casualty events, and infection control.

In addition to overseeing the responsibilities described for the Hospital Preparedness Coordinator, the Medical Director will function as the liaison to the MDPH OEMS and Health Care Quality programs and various professional organizations, and will work with the Hospital Preparedness Coordinator as a liaison to both the CDC agreement and the three MMRS projects. (OBJECTIVE***)***

2. Hospital Preparedness Planning Committee

The HPPC will be convened at least quarterly, and will form appropriate subcommittees or work groups as needed to carry out the duties of the committee. The HPPC has been convened twice (March and April 2002) to provide input on this proposal. MDPH has a preliminary mission statement and a list of duties for the HPPC that will be submitted for HPPC review and approval at its next meeting in May. (OBJECTIVE)

The draft mission of the HPPC:

To ensure the appropriate and effective investment of federal resources provided to assess, prioritize and upgrade the capacity of hospitals and collaborating health systems in the Commonwealth of Massachusetts to respond to bioterrorism, infectious disease outbreaks, other public health emergencies and mass casualties.

The duties of the HPPC:
- Advise MDPH on the development of proposals submitted to HRSA and CDC relative to Bioterrorism Planning and Response;
- Advise on the development and administration of survey instruments needed to establish an inventory of health care assets in the state;
- Advise on the development of needs assessment tools that identify specific areas of hospital, EMS and other health care provider preparedness that require additional resources;

- Advise on the development of benchmarks for optimal hospital capacity for each of the areas; surveyed. The committee will identify those benchmarks that signify attainable goals for all hospitals to reach, and those that may vary according to the level of services provided by the facilities in accordance with a regional hospital planning process;
- Advise on the development of regional hospital planning areas and appropriate integration with EMS regions, outpatient medical services, local public health departments and other health related services;
- Provide MDPH with substantive input on prioritization of needs, and the allocation of resources
- Counsel and advise the MDPH on planning and implementing hospital, EMS and outpatient preparedness activities; and
- Review and approve state or regional hospital preparedness plans submitted to HRSA

HPPC Membership

MDPH convened a Statewide HPPC (which met on March 13th and April 1st) and consists of representatives from the following organizations:

- American Red Cross, Massachusetts Bay Chapter (volunteer disaster services)
- Association of Professionals in Infection Control and Epidemiology (infection control)
- Baystate Medical Center (Pathologist, member advisory council on Commonwealth Security)
- Boston Public Health Commission (Boston MMRS)
- Boston University School of Public Health (academic public health training program)
- Cambridge Health Alliance (hospital/health care network)
- Conference of Boston Teaching Hospitals (consortium of Boston teaching hospitals)
- Department of Mental Health (sate mental health agency)
- Executive Office of Health and Human Services (parent agency of MDPH, DMH)
- Home Health Care Association of Massachusetts, Inc. (home health association)
- Massachusetts Ambulance Association (organization representing private ambulance services)
- Massachusetts Association of Health Plans (organization representing the major HMOs)
- Massachusetts College of Emergency Physicians (emergency room physicians)
- Massachusetts Emergency Management Agency (state emergency management agency)
- Massachusetts Hospital Association (hospitals and health care systems)
- Massachusetts Infectious Diseases Society (infectious disease practitioners)
- Massachusetts League of Community Health Centers (local health centers)
- Massachusetts Local and State Health Coordinating Committee (state and local health officials)
- Massachusetts Medical Society (physicians)
- Massachusetts Nurses Association (nurses)
- Massachusetts Office of Rural Health (rural health services)
- Massachusetts Pharmacists Association (pharmacists)
- Massachusetts Poison Control System (poison control)
- Massachusetts Public Health Association (broad-based public health areas)
- Massachusetts Society of Health-System Pharmacists (hospital pharmacists)
- MDPH Hospital Bureau (state public health hospitals)
- MDPH Office of Emergency Medical Services (emergency medical regulatory agency – pre-hospital)
- Regional EMS Councils (5 regional EMS planning/communication groups)
- Springfield Department of Health and Human Services (Springfield MMRS)
- VA New England Health Care System (VA system)
- Worcester Department of Public Health and Code Enforcement (Worcester MMRS)

3. Regional Hospital Plans

The HPPC will advise MDPH on a final Regional Plan that integrates the hospital, outpatient health care, EMS and local public health agencies in a coordinated approach to bioterrorism, public health emergency preparedness and mass casualty readiness. A coordinated hospital/EMS/outpatient/local health regional planning process will address critical issues such as the development of mutual aid agreements and/or compacts between local jurisdictions and a plan for regular exercises that test regional response proficiency.

(1) Establishment of Regions:

- The HPPC will work with the statewide Bioterrorism Advisory Committee (established to assist with the CDC agreement) and the new state Office of Commonwealth Security in identifying a regional approach to planning. Massachusetts is relatively unique in in the nation - there is no county health system, and our required health service planning areas were eliminated many years ago. Geographic algorithms for determining "need" are developed on a case-by-case basis when health policy guidelines are needed for making decisions related to the allocation or approval of particular health-related services.

- A viable option for regionalizing the hospital, health care and local public health system may be through a model similar to, and integrated with, the five existing EMS regions. This proposal has been strongly supported by the hospitals and EMS community and has been favorably received by the local public health community as well.

  The five EMS Regions cover the entire state and are broken down into the following geographic areas: western, central, greater Boston, northeast and southeast (including Cape Cod, Martha's Vineyard and Nantucket). EMS Regional Councils are established by law, and serve to assist the Department in the planning and coordination of emergency medical services. The Department provides financial support to the Regional Councils to carry out their duties under EMS 2000, (including $900,000 from a state EMS 2000 appropriation and $500,000 from the federal Preventive Health Block Grant). Each region has at least one Central Medical Emergency Direction (C-MED) communications center that serves to connect ambulance services with area hospitals, principally for medical direction and entry notification. The C-MED centers are supported by the Department through the EMS Regional Councils. Because mass casualty incident (MCI) planning, communications, and operational deployment of EMS resources are already organized through this structure, coordinating the roles of local health departments through the existing EMS regions is a logical direction to explore. (A map of the EMS Regions is attached as Attachment D, and it shows the location of the acute care hospitals in each region.)

  Final endorsement of a plan to use the five EMS regions within the coordinated over-all planning and response activities of the Hospital/EMS/Ambulatory Care/ Local Public Health communities will be completed shortly, after consultation with the two statewide advisory committees. (OBJECTIVE)

(2) Development of Statewide and Regional Hospital Plans: (OBJECTIVE)

MDPH proposes to contract with the Massachusetts Hospital Association (alone or in combination with other suitable health provider or health data contract organizations) for:

- Coordination of the survey activities are essential for implementation of a comprehensive needs assessment;

- Development and implementation of regional hospital planning activities;

- Collection of data and information regarding facility preparedness across a wide spectrum of community-based agencies and facilities (and across service delivery sectors ranging from

EMS and hospitals to mental health institutions and the poison control center in Massachusetts);

- Collaboration with state and regional EMS and local health agency planning activities; and.
- Collaboration with other New England hospital associations on bioterrorism preparedness activities.

Specific activities will include:

a. Identification of Common Data Elements to Support Emergency Response Mobilization

An agreed-upon set of common data elements will be identified through a consensus-building process to facilitate communications and emergency response, including:

- A statewide emergency contacts directory to facilitate communication between and among facilities and state, federal, and local authorities. Components of this directory will include such items as emergency contacts information for local, state, and federal agencies, hospitals, EMS participants, local boards of health, poison control centers, and others. It will also include information about radio availability and other means of available communication;

- A mechanism to capture staffing and supply needs and capabilities. Common data elements will be identified to capture supply and staff capability by region and efficient systems will be recommended for capturing this information. For example, it may be helpful to have hospitals coordinate and maintain a listing of different types of hospital personnel and supplies it could mobilize and deploy in the event of a disaster. This would be made available upon request should it become necessary. This information will be used to supplement a volunteer registry; and

- Identification of additional information (such as a patient locator system similar to what was put in place in New York following 9/11) will be considered.

b. Communication Systems:

A communications plan, with clear lines of authority, will be developed to facilitate communications between the state and hospital leadership in the event of a disaster. Development of this plan will include:

- An analysis of the risks and benefits of available communication systems (e.g., Nextel, 800 Megahertz Radios) and recommendations for the purchase of such equipment;
- Exploring group purchasing opportunities;
- Identification of potential vulnerabilities in existing communication systems and recommended solutions for avoiding potential disruptions;
- Development of a communication protocol; and
- Integration with other communications initiatives tied to the HAN and the Statewide EMS Communications Plan.

c. Surveillance and Response to Biological, Chemical and Nuclear Events

A communications vehicle will be developed to ensure that hospitals have complete and up-to-date information as it becomes available. Some examples include:

- Emergency preparedness briefings, educational sessions and/or a web-based resource listing of briefings and sessions that are being offered by others;
- Immediate distribution (via email and fax alerts) of health updates, CDC updates, DPH protocols, and other relevant materials;

- Immediate posting of information as it becomes available on the MHA web-site with appropriate links;
- Regular tele-conferencing with hospitals to share information as it becomes available;
- Development and/or communication of materials to educate the public via joint press statements, talking points for hospitals, etc.,

d. Enhancing the Ability to Respond

A process will be put into place to facilitate dialogue and build consensus on developing best practice recommendations to enhance bio-terrorism preparedness. This process shall include at minimum, such issues as personal protection equipment (PPE), decontamination capacity, medical supplies and stockpiles.

Funding will be provided to support staffing and administrative assistance, equipment, and supplies for activities that would be undertaken in each of the regions.

(3) Review of Statewide and Regional Data (OBJECTIVE)

- The collection and analysis of aggregated data and information will allow the HPCC and MDPH to further refine specific needs in each Priority Planning area, as well as in each region, and the priorities for funding.

- Specific protocols, policies and resources that require funding for development and implementation will be identified. Data gaps and the need for additional (or augmented) hospital, health center, clinic and EMS surveys will be determined. (OBJECTIVE)
- It may be necessary to contract separately for the completion of the Needs Assessment survey process for the EMS and Outpatient/Health Center/Ambulatory Care areas. This will be a priority issue for discussion with the HPPC.

- The HPPC and appropriate subcommittees, work groups or focus groups will define the details of what each Regional plan will include, and will review and approve all regional hospital plans that are developed as a result of this process. (OBJECTIVE)

- The HPPC includes representatives of the three MMRS projects (located in EMS Regions 1, 2 and 4), to ensure that the common goal of defining and implementing plans to reach the 500 patients added capacity is achieved. It is expected that if a five-region plan is approved, the 500 patient goal would be applied to each of the five Regions. This will be reviewed and approved by the HPPC as well. (OBJECTIVE)

(4) Proposed Components for Regional Hospital Plans (OBJECTIVE)

- Plans for additional hospital bed capacity: Plans will be developed via the Needs assessment process, HPPC and regional hospitals planning processes.

  As part of the needs assessment, the hospital capacity to support additional admissions will be determined. In most hospitals, this capacity will be greater than the number of licensed beds. Limiting factors such as the availability of staff will be identified. The HPPC will develop protocols that hospitals can use as guides for converting unused physical space to useable space in the event of a bioterrorism event.

  Capacity planning will include review of state owned vacant buildings on hospital grounds where little capital dollars and immediate access can support a rapid response.

- Plans for provision of isolation and quarantine for casualties: Plans will be developed via the Needs assessment process, HPPC and regional hospitals planning processes.

- Plans for overcrowding, diversion: The MDPH Ambulance Diversion Task Force has convened a working group to finalize a plan to address emergency department overcrowding in disaster situations. That plan, being developed in conjunction with MHA and MDPH, will build upon best practices and uniform standards and definitions previously established through the Diversion Task Force process. The hospital disaster preparedness and response plan will rely on further build-out of an Internet-based system for tracking hospital ED diversion, and will include a resource registry that will track bed availability and other hospital capacity indicators. This same Internet system currently provides real-time information on ED diversion status to ambulance personnel

  Note: This system had a preliminary test on 9/11. On that day, MA hospitals cancelled all scheduled surgeries in anticipation of an influx of casualties. Simultaneously, hospitals took all appropriate steps to discharge patients as soon as clinically feasible, and called in off-duty staff. EMS regional staff polled hospitals manually to determine bed availability.

  A long-term emergency will require a different approach. Many scheduled surgeries cannot be delayed without life threatening consequences, so the plan must include protocols for allocating inpatient beds to scheduled vs. emergent cases. The approaches for relieving ED stress developed by Litvak and his colleagues[2] -- currently presented as best practices – will be reviewed for consideration by the HPPC as part of the emergency plan.

- Plans for avoiding simultaneous diversion: As described previously, Massachusetts has been active in developing strategies for addressing diversion. Based upon this experience, it has developed plans that require hospitals not to be on diversion simultaneously – if all hospitals need to go on diversion, then no hospital may go on diversion. Regional plans will set out the protocols that hospitals will use in triaging patients from the pre-hospital setting to an appropriate hospital setting in conditions of extreme crowding. The goal of the protocol is to distribute the excess demand placed on the hospital system by a bioterrorism event equally among all the hospitals in the region.

- Plans for movement of equipment maintained by hospitals or EMS systems:
  The HPPC will assess the role of proposed regionalized EMS strike teams/task forces in the timely deployment of equipment. It should also be noted that the Massachusetts Emergency Management Agency (utilizing the Massachusetts Emergency Management Team and the ESF system, particularly the National Guard) would be a crucial partner in developing this plan

- Plans for special needs (children, vulnerable populations): This is an area that requires development once the Needs Assessment has been completed and reviewed by the HPPC. Needs or proposals already identified for consideration are:

  State EMS Medical Director has proposed the development of an Addendum to the Statewide EMS Treatment Protocols for EMS personnel that will address the clinical needs of vulnerable populations in bioterrorism events.

  Boston Children's Hospital has proposed the development of a Center of Excellence which would produce specific protocols for diagnosis, treatment and transport of children and statewide proposals for training and dissemination of materials for schools and school-based clinicians

- Plans for essential goods and services such as food, water, electricity:
  For accreditation and licensure purposes, hospitals are required to have plans for emergency back-up for major utilities such as water and electricity. Major interruptions to these utilities would trigger the MDPH "serious incident" mandatory reporting requirements. In the event of a catastrophic event that overwhelms the back-up capabilities of a facility, the MEMA emergency

[2] Litvak E, Long M, Cooper A, McManus M. Emergency Room Diversion: Causes and Solutions. Am J ManagCare 2001 (in press).

response system would be triggered and additional state and federal resources would be made available. There have been numerous instances when this system has been implemented, most notably in the event of severe weather-related events. MDPH is also able to facilitate the transfer of patients from a facility should the need arise due to a sustained outage.

- Plans for hospital security: All health care facilities (as part of their JCAHO accreditation) are required to have security action plans that address access and egress, lock down of the facility, and control of vehicular and pedestrian traffic. Hospitals are further expected to participate in their community-based Local Emergency Planning Committee that will facilitate additional identification of vulnerability and assure access to local public safety resources in the event of an emergency. Through this mechanism, state and (when needed) federal resources can be requested through the state MEMA agency. Such resources might include the activation of the National Guard or deployment of the State Police. The Needs Assessment process should help identify the adequacy of these plans and resources.

- Plans for appropriate disposal of medical waste: Massachusetts has comprehensive regulations for the classification, handling, processing, labeling, transport, decontamination and disposal of potentially infectious or pathological medical waste. These rules are applicable to all levels of facilities, providers and waste generators and are not limited to health care settings. The standards have been adopted by reference for all categories of licensed health care providers and are fully incorporated in the state sanitary code. The regulations will be reviewed and appropriate guidance documents and educational materials developed clarifying the regulation's applicability to potential bioterrorism events and for various priority potential bioterrorism pathogens.

(5) Timelines for Regional Plans

A preliminary timeline for this project is included in Attachment D. It is expected that the development of regional hospital planning should begin by Month 4 (at the conclusion of baseline surveys), and that first drafts of the regional hospital plans will be in place by Month 9. These are initial estimates that will be further defined after consultation with the HPPC, MHA, and other key constituencies.

D. FIRST PRIORITY PLANNING AREAS:

To the extent possible, planning efforts already in progress are identified. Final plans, as well as revised allocation of resources will be reviewed by the HPPC. Because a significant amount of information must be identified via the Needs Assessment and survey processes, specific funding allocations and more detailed plans will be developed after April 15th. Timelines and major milestones are identified where possible. The two Needs Assessments in progress (hospitals and EMS) will be completed by Month 3. Other Needs Assessments deemed necessary by the HPPC will be completed by Month 6.

1. Medications and Vaccines:

National Pharmaceutical Stockpile (NPS): An interim plan for the request, receipt, storage and distribution of pharmaceuticals and, where needed, medical supplies from the National Pharmaceutical Stockpile has been developed and can be found in the MDPH Bioterrorism cooperative agreement application to CDC (Focus A), in response to Benchmark # 13. Development of the Final Plan is described under Critical Capacity # 5. While the majority of the planning and implementation will take place using CDC resources, the HRSA Hospital preparedness program staff, including a .25 FTE Pharmacist working directly on hospital pharmaceutical planning issues, will be fully integrated with the NPS Focus A Interim and Final Plans. (OBJECTIVE)

As described in Focus Area A, the request for NPS asset deployment will be made by the Commissioner of Public Health through the Massachusetts Emergency Management Agency. Both MDPH and MEMA maintain 24/7 notification systems through their respective agencies. MDPH emergency calls "after hours" go to the switchboard at the State Laboratory Institute in Jamaica Plain, and MEMA maintains a 24/7 communications center in Framingham. Senior DPH and MEMA officials, (including the three lead MDPH officials responsible for the CDC and HRSA bioterrorism preparedness programs), carry nationwide cell phones and pagers at all times.

For treatment of symptomatic populations, DPH will transfer custody of certain of the NPS assets to affected hospitals, clinics, emergency medical services, other licensed sites and/or MMRSs, where applicable. A chain of custody will be established for tracking of assets for the purposes of accountability as well as recovery of salvageable assets. For post-exposure prophylaxis of asymptomatic populations, DPH will retain custody of NPS assets for dispensing to patients. DPH will determine dosing regimens based on the statewide needs assessment and in accordance with CDC guidance

Other pharmaceutical resources: MDPH has included representatives of the three Massachusetts MMRS programs on the HPPC. The three federally designated MMRSs in the state already do (or are planning to) stockpile sufficient pharmaceuticals to provide care for up to 1,000 victims of a chemical incident and 10,000 patients of a biological incident. MDPH is (or will be) represented on the advisory committees established by Boston, Springfield and Worcester. Written agreements ensuring an integrated and coordinated approach between state NPS initiatives and the respective MMRS programs and supplies of pharmaceuticals will be executed. Detailed inventories of the content of the local MMRS stockpiles will be obtained and integrated into the state plan. (OBJECTIVE)

Assessments of pharmaceutical stocking at hospitals is a major component of the MHA survey currently underway. This will be coordinated with a project underway with the Poison Control Center which identifies and maintains a database of locations and quantities of all antidotes and certain antibiotics (for bioterrorism response) available in Massachusetts through its ongoing surveys of hospitals and other health care facilities.

During the post-9/11 anthrax incidents, MDPH was alerted to the potential for inappropriate prescribing of antibiotics, and re of some hospitals increasing normal inventories of specific antibiotics creating temporary shortages of Ciprofloxacin for smaller purchasers. The MHA survey, coupled with literature on appropriate stocking levels of pharmaceuticals, will provide a basis for completing guidance documents that will be reviewed by the HPPC. (OBJECTIVE)

Other than the three MMRS projects and the Poison Control Center pharmaceutical resource inventory, Massachusetts has no current plans to create a state stockpile. One exception is the potassium iodide

(KI) stockpile of 600,000 tablets received from the NRC that will be (in part) pre-distributed, with the remainder stockpiled in schools and day care centers within the 3 nuclear power plant Emergency Planning Zones (EPZs) in Massachusetts (18 communities). (OBJECTIVE)

Note: It is our understanding that a smaller CDC NPS stockpile is under consideration for each state. We would endorse such a plan, and would develop the composition based on CDC recommendations. The planning for such a stockpile would include a system that rotates the shorter shelf-life pharmaceuticals through high-volume pharmacies in order to ensure that costly pharmaceuticals are not wasted while ensuring the ready availability of these drugs when needed.

2. Personal Protection, Quarantine and Decontamination:

The following proposed action plan for personal protection, quarantine, and decontamination will be reviewed by the HPPC:

a. The HPPC will review a detailed assessment tool designed to measure the current status of personal protection for biological, chemical and radiological incidents in hospitals. This tool will be developed after review of the information obtained from the MHA Hospital Survey and the survey of EMS services. Development of an implementation plan is dependent on completion of the Needs Assessment and review by the HPPC and designated work groups.

   EMS strike teams/task forces will be considered for inclusion in the plan. The .75 FTE EMS/First Responder Coordinator hired for CDC Focus Area A – Preparedness Planning and Readiness Assessment, will carry out additional support staffing for this initiative.

b. The HPPC will develop recommendations regarding personal protection protocols and the appropriate augmentation of existing equipment and supplies.

   1. Select regional hospitals may be recommended for capital improvements (such as air-filtered quarantine units or biological decontamination facilities) to ensure safe and effective isolation and decontamination of large numbers of patients.
   2. The HPPC will recommend decontamination equipment and identify training needs. It will recommend how and where the decontamination equipment will be deployed to best fulfill state needs.
   3. Each hospital will plan to triage, decontaminate (if needed), and treat biologic casualties and identify the institution's limits for airborne/droplet/contact precautions.

c. Personal protection equipment purchases will be recommended for each hospital and EMS region. The regions will create plans for use and deployment.

d. Personal protection training will be developed and implemented

3. Communications:

The current MDPH 24/7 Emergency Response system (through the State Laboratory switchboard) will be enhanced through both the HRSA and CDC agreements. The Health Alert Network, once fully operational, will play a crucial role in call-down procedures that must go into effect in the event of an acute incident or epidemic. Further details of the activation process (which will also involve agencies such as MEMA when appropriate) will be further defined during the course of this agreement. MHA will play a central role in activations relative to the hospital community, and the Regional EMS system (CMEDs) will play a similar role for the EMS community.

Gaps in Communication Systems: There are a number of gaps in the current communications system that MDPH and the committee will consider: the six existing CMED centers (that link hospitals and ambulance services) cannot communicate with each other, with outpatient clinics, or with state and local public health agencies. In addition, there are insufficient dedicated common channels for communication between and among state, regional and local public health and public safety agencies and responder agencies. Use of the Internet-based tracking system is limited to tracking hospital ED diversion status;

the system requires further build-out to provide more immediate and accurate hospital capacity information and to ensure consistency of access statewide.

The existing CMED system that links physicians at medical control hospitals to clinicians in the field, requires upgrading to ensure (1) all hospitals and EMS providers have access to each other, particularly during a bioterrorism event; (2) linkage of all CMED centers with each other and with relevant public health entities; and (3) sufficient system redundancy.

Note: MDPH has recently learned that 800 Mhz base radios are to be provided to each C-MED center from the DOJ Grant. This will provide each C-MED with statewide communication capacity among centers, communication with the MEMA emergency operations center, with the Fire District Control Centers, Hazmat teams and others. While not a complete solution to communications, this would be a major step forward.

Communication systems – Redundancy, Backup plans: EMCAB's Communication Committee is finalizing recommendations for establishing necessary CMED linkages for consideration by the HPPC. Updating of the current statewide EMS communications plan is required by EMS 2000. Resources are required to complete a comprehensive needs assessment, and build-out of the Internet system to (1) ensure sufficient communication system redundancy using technologies such as satellite phones, Nextel systems and/or the Blackberry communicator-type units, and (2) provision for immediate broadcast of information regarding significant events, including Bioterrorism events. Improvements to the Health Alert Network and the addition of a Broadcast Communicator are currently under discussion to effect those improvements. Active discussions are underway with the EMCAB Communications Committee and MDPH staff involved in various communications initiatives (i.e. HAN, diversion tracking system) to ensure a coordinated approach to planning and integration in this complex technological area.

Electronic Bed Tracking: Further build-out of the current Internet-based system that tracks ED diversion status will allow for real-time reports of hospital bed availability by bed category and other hospital capacity indicators. The current Internet diversion tracking system is maintained by CMED centers, but will be modified to allow hospitals to input bed status information directly. Maintaining such an ongoing real-time resource registry is expensive and manpower intensive; the plan will, therefore, include criteria for its activation based upon standard cost /benefit considerations.

Monitoring and Surveillance of ED and Outpatient visits: The HRSA Hospital Preparedness Program will be coordinated with the Epidemiology/Surveillance activities carried out under CDC Focus B and E. In addition to the coordination between the CDC and HRSA team members previously described, the following proposed activities will be initiated under Focus B and E:

- Over the past three years, MDPH has received funding for two special projects (among eight projects funded nationally under the CDC Bioterrorism Preparedness and Response Program) for early detection of disease potentially due to bioterrorism and for syndromic surveillance. One surveillance system (developed and operated by the Boston Public Health Commission) monitors volume of patients being seen in 11 urgent care sites in the nine hospitals (including the Boston VA Hospital) in the City of Boston on a real time basis, with immediate follow-up of any unusual volume of activity. It is being proposed in the current CDC grant application to expand this system to include suburban emergency departments. A syndromic surveillance system has been developed in collaboration with the Department of Ambulatory Care and Prevention of Harvard Medical School. This system takes advantage of electronic medical records generated in real time by clinical providers of Harvard Vanguard Medical Associates (HVMA), a multi-specialty group practice at 14 sites in eastern Massachusetts. All clinical encounters, ambulatory care visits and telephone calls, are entered into an electronic medical record system as they occur, using a menu of signs, symptoms and diagnoses. These data are then compiled and analyzed for each 24-hour period, with a report of numbers by census block posted electronically through a secure web site each morning, using a generalized linear mixed model to assess "observed-to-expected" numbers of complaints. Currently, this system collects data on approximately 100,000 insured lives cared for by HVMA providers. It is proposed to increase the data inputs to include another 100,000-150,000 patients in HVMA care.

- MDPH is also proposing to extend funding of an emergency department automated syndromic surveillance system developed at Boston Children's Hospital by researchers at Harvard Medical School and the Massachusetts Institute of Technology (under funding from the Agency for Healthcare Research and Quality). It is currently operational at Children's Hospital and the Beth Israel Deaconess Medical Center and planned for extension to seven other urban teaching and community hospitals. Further, the MDPH is proposing (under the CDC cooperative agreement supplementary funding) to engage all of its syndromic surveillance partners in research on integrating surveillance systems across a variety of methodologies, patient bases, types of encounters and geographic areas.

- The Health Alert Network (HAN), in combination with the NEDSS initiative, will facilitate electronic reporting by laboratories, health care providers and local boards of health. Urgent disease reports or unusual clusters of diseases will trigger a Health Alert to the epidemiologist on-call and appropriate local health authorities.

- The MDPH State Laboratory Institute (SLI) is developing an Integrated Information System (SLIS). The SLIS will include the use of a patient-based database, electronic reporting and laboratory data interchange using web-based functionality between the Bureau of Communicable Disease Control and other private and government clients. The system will include web-based data entry for hospital and private laboratory sites through a secure data network, using standards and specifications, as they become available through the NEDSS. The electronic interchange of laboratory data will be transmitted in accordance with electronic data interchange (EDI) accepted standards adapted for public health use (e.g., NEDSS, HL7 - health level 7). Logical Observation Identifiers, Names and Codes (LOINC) will be used for test specifications and Systematized Nomenclature of Human and Veterinary Medicine (SNOMED) will be used for test results. SLIS will support the electronic interchange of all required data for notifiable diseases, and surveillance and prevention efforts of the Massachusetts and federal STD Prevention Programs. (in collaboration with Focus Areas C and E)

- Discussions are being held with local health jurisdictions to determine how epidemiologic resources might be more readily available on a regional basis and what those regions look like. This will be done in coordination with the regional planning process proposed in Focus Area A, Section II, part 2. Funding will be provided to address the epidemiologic needs of all local health jurisdictions based on results of that planning process, as proposed in Focus Area B, critical capacity #1

Public education: The MDPH education strategies and messages will be coordinated under Focus Area F of the CDC agreement, in conjunction with the HRSA HPPC. Roles for the media will be incorporated, and tools used in public education and activation of emergency plans for Nuclear Power plants (Massachusetts has three such EPZs) will be used as models for bioterrorism and other public health emergency situations. Activities planned for state and local agencies under Focus F will be expanded to include hospital, EMS and outpatient/ambulatory care facilities using resources from the HRSA project. Proposed activities include:

- Senior public information officers will receive in-depth training on risk communication theory and best practices.
- Regionally-based instructors will be trained in risk communication principles. Risk communication training will be offered to hospitals and other public health practitioners in regional workshops and satellite programs.
- Following the risk communication training, all participants will review the public information components of their emergency response plan, and related communications practices, and revised plans will be prepared and distributed for review and comment. The emerging role of the Health Alert Network and new technologies will be included as a component of these plans. An organizational chart of trained media spokespeople within each MDPH Bureau, hospitals, EMS, academia, professional organizations and local health departments will be formalized. Regionally-based instructors will work with state, regional and local providers and agencies on reviewing and revising communications plans through the use of tabletop and functional exercises.

- Risk communication training will be provided for agencies and individuals who are first points of contact with the general public in emergency situations. Training will include an examination of needs of special populations and mental health issues during public health emergencies.

Public relations plans: See above. Plans will be developed in coordination with CDC Focus Area F (Risk Communication). Early in the implementation of this cooperative agreement, media focus groups and media training programs will be convened to ensure that public messages are understood and can be conveyed to the public in an accurate manner in the event of an emergency. Considerable attention will be devoted to risk communication to prevent or minimize the "epidemic of fear" observed with the anthrax events.

4. Biological Disaster Drills:

Hospitals are required by the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) to conduct tests of their emergency plans at least twice a year. For hospitals with emergency rooms, at least one drill must involve an influx of volunteer or simulated patients. Participation in community-wide drills is also required. Wide scale community drills have been difficult to arrange due to the complexity and expense of conducting such drills.

When requested, MEMA, MDPH and other state and federal agencies have participated in table-top exercises at the community level, but rarely have these involved a biological agent. Real events that involve responses to natural disaster such as hurricanes, blizzards and severe flooding have served to keep the state prepared for a catastrophic event. The most rigorous of current exercises and drills have involved the three nuclear power plants and they will serve as models for the type of federal, state and local disaster drill to be developed for terrorist activity.

Using the models developed primarily in the nuclear power plant drills (and the real-life responses that have been exercised for natural disasters) MDPH plans to work with MEMA and the hospital, EMS and local health department regions created as a result of the HRSA and CDC funding to develop protocols, training programs and model plans that can be used to carry out regional bioterrorism drills of system-wide preparedness. Methods of evaluating disaster drill performance (similar to graded exercises for power plants) will be incorporated as well as a mechanism for identifying lessons learned for incorporation in hospital, EMS service, state and local government disaster plans.

An HPPC subcommittee for Exercise Planning will be proposed to develop a statewide plan for biological disaster drills. This work group will be comprised of representatives from the CDC, HRSA and MMRS projects as well as local health and public safety agencies and MEMA. Significant staff support for the development and implementation of state and regional biological disaster drills will come from the following individuals: (OBJECTIVE)

- Hospital Preparedness Coordinator (HRSA),
- Medical Director (HRSA)
- Local Health Preparedness Coordinator (CDC Focus Area A),
- EMS/First Response/Public Safety Coordinator (CDC Focus Area A)
- Public health liaison at MEMA headquarters (staff position to be funded under Focus Area A)

Note: The Massachusetts Medical Society (MMS) has proposed scheduling a statewide disaster drill involving DPH, MEMA, hospitals and MMS in mid- to late- 2003. This disaster drill scenario would be developed by an expert panel, and implemented at the state and local level. The basic proposal would be to establish operations centers at MEMA headquarters, the State Laboratory and major academic medical centers in Boston, Worcester and Springfield as well as at the MHA and MMS. Participants and observers would also be at the active local sites where the actual bioterrorism event was occurring. Observers would be used document activities and produce a report of the exercise.

E. SECOND PRIORITY PLANNING AREAS

To the extent funding is available; the following planning activities will be undertaken. It should be noted that preliminary discussions with the HPPC have indicated that Training is a priority.

1. Personnel:

Emergency Staffing Increase – deployment of 50 urban and 20 rural additional personnel:

Plans will be developed to meet demand for increases in staffing for physicians, nurses, pharmacists, mental health professionals, emergency medical technicians and others, and for linkages with other hospitals and EMS systems.

- Registries: Personnel registries for nursing, pharmacy and physician resources will be developed. Use of temporary staffing agencies and other strategies that increase responsiveness and flexibility will be considered. It is likely that events will not be statewide thus prompting the development of a plan that permits the deployment of medical and clinical staff from one region to another.
  (OBJECTIVE)

  Of the 20,000 certified EMTs in the state, approximately half currently work as EMTs on ambulance services. A plan to establish and to maintain a registry of current certified EMTs available to respond to a large-scale event (including a Bioterrorism event) will be considered. A plan to make that registry available to the EMS Strike Teams/Task Forces and others providing emergency medical care and response will be established.
  (OBJECTIVE)

- Mental Health: Consideration will be given to the special needs of the mental health system. When planning for medical surge capacity staffing in response to terrorism or other disaster, there will be a corresponding need for a mental health surge capacity. Evidence supporting this surfaced in focus groups conducted for DMH's "Disaster Mental Health Services in Massachusetts" needs assessment prepared for the Center For Mental Health Services. A key need arose following 9/11 when members of the general public began presenting at emergency rooms with minor physical, but significant psychological, complaints.

  Note: There are some special considerations in assessing mental health personnel surge capacity that must be included in the needs assessment. For example, some of the literature shows that that a sharp increase in psychiatric hospitalization does not occur in the initial stages of disaster, but that there is a significant increase following the initial response phase. Also, a publicized disaster or threat is shown to have a clear impact on the acuity of psychiatric facilities, regardless of unit census. Staffing needed during any evacuation procedures, as with medical facilities, would have to be higher than for normal operation.

PEP: In planning for the potential need for antibiotic post-exposure prophylaxis (PEP) sites last fall, teams of physicians, nurses, pharmacists, EMTs, and volunteers were identified, contacted and agreed to be available should the need have arisen to set up a PEP site. This was accomplished on very short notice (a few days) and involved the use of both professional organizations and licensure boards of registration. Several of these organizations have continued these efforts to establish a resource registry on their own. We propose to develop these personnel resource registries on a permanent, on-going basis with mechanisms for ensuring licensure verification and credentialing included in the plan. (OBJECTIVE)

EMS, Mutual Aid, MMRS, DMAT Coordination: EMCAB, its committees and Regional EMS Council processes will be key in coordinating the planning efforts and implementation among hospital and pre-hospital providers and public safety agencies. Inclusion of public safety agencies and the three MMRS communities as members of the HPPC will provide a vehicle for ensuring collaborative working

relationships. The regional hospital/EMS planning groups would be similarly constituted and the development of regional planning programs will further cement these relationships.

Lessons learned from the events of September 11 point out the need for an action plan for EMS personnel and ambulance vehicles. The proposed EMS strike teams/task forces and the utilization of non-traditional certified EMS personnel would be a key component in channeling type and quantity of resources needed for a particular event. Plans will be developed that address both (1) appropriate resource deployment to an event, and (2) on-going coverage of local community needs. Such a plan will address roles and responsibilities of the Regional EMS Councils and relevant stakeholders such as the Professional Firefighters of MA (PFFM), the MA Association of Fire Chiefs (MAFC), the MA Ambulance Association (MAA), among others.

MDPH plans to develop a specific protocol for defining the role of public health with respect to the interstate compact. Massachusetts is an Emergency Management Assistance Compact (EMAC) state. This is "mutual aid" system between states and extends well beyond New England. Massachusetts will promulgate a state agreement with its two DMATs (Boston and Worcester), making them state resources. A state agreement would allow these teams to be activated without federal approval, either from the USPHS or FEMA.

The .75 FTE EMS/First Responder/Public Safety Response Coordinator hired for CDC Focus Area A – Emergency Preparedness Planning and Readiness Assessment, will carry out additional support staffing for this initiative. (OBJECTIVE)

License reciprocity, credentialing and supervision of clinicians: With respect to nurses, the Board of Registration is already discussing uniform rules for cross state reciprocity. With respect to EMTs, the Department already has authority to certify EMTs and first responders who provide prehospital emergency medical care (EFRs). Care that EMTs and EFRs provide must conform to statewide EMS treatment protocols. An Addendum to protocols will be considered to facilitate expansion of prehospital provider roles in a bioterrorism event. In addition, EMS 2000 provides for broad waiver authority for the Department. A plan for supervision of non-traditional certified EMS personnel participating in bioterrorism events will be developed. (OBJECTIVE)

2. Training:

Comprehensive plans have been proposed for the assessment of needs and development of training for state and local health department personnel, and health care providers under the CDC Focus Area G-Education and Training. Particular emphasis has been placed on emergency department and infectious disease personnel and local health officials. In collaboration with the HRSA project and an appropriate subcommittee of the HPPC, the planned Needs Assessments and training program development under Focus Area G will be expanded to ensure inclusion of EMS personnel and other health care professionals working in institutional and outpatient settings. The HRSA subcommittee will become a part of the statewide Education and Training Committee convened under CDC Focus Area G. Activities planned (or in progress) include:

- A plan to address training of Hospital, EMS and other health care personnel will be developed and will incorporate an inventory of current training levels. Surveys of current federal training resources, such as relevant parts of the National Highway Transportation Safety Agency (NHTSA)'s national standard training curricula, development of MA protocol specific training materials, and collaboration with existing MA training institutions for which an accreditation process are currently being implemented. For EMTs, the Department has the authority to amend existing initial, refresher and continuing education programs to include content related to preparedness for bioterrorism events. (OBJECTIVE)

- Training institutions accredited by MDPH for EMS personnel will take the lead in providing relevant training. Standards for training program content will be developed through an EMCAB process and will be done in collaboration with hospitals and public safety providers. All EMS training in MA is developed in consideration of national standards, particularly those promulgated by NHTSA, and NHTSA's EMS Training Agenda for the Future. (OBJECTIVE)

- Plans for the development and updating of diagnostic and treatment protocols, and necessary training associated with the new protocols will be undertaken by the MDPH Bureau of Communicable Diseases under the CDC agreement. Recommendations will be made for developing or updating diagnostic and treatment protocols for bioterrorist infectious diseases and toxins with early nonspecific syndromes, to be used in emergency departments, outpatient and inpatient facilities and intensive care units, and the pre-hospital environment. Special issues affecting children, pregnant women, the elderly, limited English-speakers, and those with disabilities will be addressed in these protocols. (OBJECTIVE)

- Priority will be given to the following:
    - Bacteria: anthrax, plague, brucellosis, Q fever and tularemia
    - Viruses: smallpox, equine encephalitides, and hemorrhagic fevers
    - Toxins: botulinum, staphylococcal enterotoxin B, ricin, and T-2 mycotoxin

- Statewide EMS treatment protocols currently are in place and are implemented under the direction of the State EMS Medical Director with oversight and input of Regional and local medical directors. In collaboration with the MDPH Bioterrorism Medical Director, an Addendum to the statewide treatment protocols specific to EMS personnel providing care in a bioterrorism event will be developed. (OBJECTIVE)

- Clinicians will be provided with internet-based web resources for immediate access to diagostic and treatment information, rapid differential diagnosis and other useful information. Access to telephone epidemiology consultation 24/7 from the MDPH, and the development of an emergency contact resource guide for all health care providers, facilities, services and agencies was discussed under the section on Regional Hospital Plans. (OBJECTIVE)

- The Massachusetts Poison Control Center has submitted a summary request for seven areas of enhancement in its program activities ranging from increased surveillance and communications systems to the development of education and training programs. While several of the areas are more appropriately addressed under CDC Focus Areas B and G, the HPPC will be asked to review the proposal for consideration of future MDPH funding. (OBJECTIVE)

- Approval of training for EMS personnel related to bioterrorism is currently within the scope of the MDPH responsibility. Regional EMS Councils will assist in efforts to assess the need for and the availability of relevant training. Training institutions selected by MDPH will provide requisite training. Similar requirements will be identified for the respective professional Boards of Registration for physicians, nurses, local health officers and other health care personnel. The HPPC subcommittee will include this issue as an agenda item for the CDC Focus G Education and Training Committee. (OBJECTIVE)

***3. Patient Transfer**:*

Hospitals as part of their JCAHO accreditation are required to have patient transfer and evacuation plans in place.

- Regional plans: Regional hospital plans will include a component that assesses existing disaster plans in place at all facilities to determine any weaknesses or deficiencies, and determine how they can be enhanced to the safety of all patients. (OBJECTIVE)

- Transports involving communicable diseases: Medical transportation resources will be assessed and a utilization plan developed in collaboration with key EMS, public safety and hospital stakeholders. Specific attention will need to be paid to treatment protocols, personal protection equipment needs and training requirements in conjunction with the development of a transfer plan. (OBJECTIVE)

- Triage: Additional bed space is anticipated in the event of a bioterrorist event or other disaster. The triage system had a preliminary test on 9/11. At that time, MA hospitals cancelled all scheduled

surgeries in anticipation of an influx of casualties. Simultaneously, hospitals took all appropriate steps to discharge patients as soon as clinically feasible, and called in off duty staff. EMS regional staff polled hospitals manually to determine bed availability.

A longer-term event will require a different approach. Many scheduled surgeries cannot be delayed without life threatening consequences, so the plan will include protocols for allocating inpatient beds to scheduled vs. emergent cases. (OBJECTIVE)

- Use of alternative non-hospital facilities: Identification of non-traditional triage and treatment sites (such as schools, hotels, armories) will be undertaken in collaboration with the EPRI local health assessment inventories which will be performed under the CDC cooperative agreement, Focus A, Preparedness and Response. This integration with Focus A is particularly important for this issue since one of the sites with major potential as a resource for adding capacity to the emergency response system is schools. Local health departments and schools are not only sources of space that can be used in an emergency but also are the locus of employment for a significant number of public health nurses and school health nurses.

- Special Populations: Patient transfer protocols which specifically address the needs of children, elderly, pregnant women, people with disabilities, individuals with limited English speaking ability will be developed. (OBJECTIVE)

    - Psychiatric facilities: Evacuation planning should take into consideration specific concerns – diversity of in-patient units in community health centers as well as institutional settings, and special accommodations which must be made to ensure the safety of persons with mental illness during any evacuation or patient transfer—particularly when locked, high intensity, or forensic units are concerned. These accommodations may require communication, infrastructure, and personnel support in excess of the facility's normal capacity. Similarly, just as the specific needs of medical patients must be planned for during evacuation or transfer, the needs of psychiatric patients also require planning and coordination. (OBJECTIVE)

    - EMS Role: As stated above, protocols for EMS personnel will be developed under the guidance of the State EMS Medical Director in collaboration with the Department's Bioterrorism Medical Director and the HPPC.

F. INFRASTRUCTURE

1. Staffing and Medical Direction

Staffing and medical direction have been described in Section C. Critical Benchmark #1 – Program Direction, and summarized below.

- Hospital Preparedness Coordinator - This full time position will be dedicated to hospital bioterrorism planning, coordination and continuing implementation of preparedness initiatives that are already underway.

- Medical Director: This half-time position will be responsible for providing medical direction, expertise, and advice to the Massachusetts Hospital Bioterrorism Preparedness Program. He/she will be required to have a medical background in public health, hospital management, emergency preparedness, infectious diseases (preferred) and emergency medicine (preferred). The Medical Director will assist in the analysis of benchmarks for the needs assessment, as well as act as a consultant to MDPH in emergency preparedness and response, surveillance systems, mass casualty events, and infection control.

  Both positions will be part of the MDPH Emergency Response Team that meets bi-weekly and includes representatives from all MDPH Bureaus, and will serve as the integral links between the HRSA, CDC and the MMRS projects as well as governmental and non-governmental agencies.

- The state OEMS Director (Louise Goyette) is already a senior manager in the MDPH, Bureau of Health Quality Management. OEMS oversees the EMS Regional system, EMCAB, licensure of EMS personnel and EMS and private ambulance services, and is responsible for implementation of EMS 2000 legislation which is putting in place an integrated emergency medical response system in Massachusetts, with significant involvement from both the hospital and pre-hospital community.

  The State OEMS Director, and the OEMS Medical Director (Michael Erdos, M.D.), will work under the general direction of the Department's Bioterrorism Medical Director in the development, implementation and evaluation of treatment protocols for EMS personnel specific to bioterrorism events.

The additional support staff includes:

- Information Technology/Communications Manager: This full-time position will perform information technology functions including website development and maintenance, and will assist with continuing implementation of hospital ED surveillance and bed availability systems.

- Administrative Assistant: This full-time staff position will provide administrative assistance to the program staff.

- Pharmacist: (.25 FTE): to coordinate planning and implementation of the pharmaceutical stockpile initiatives.

2. Coordination and Collaboration

Within MDPH, the CDC and HRSA funding sources are being coordinated by the three MDPH Bureaus referenced in above sections. The responses to HRSA and CDC are being drafted jointly and overall coordination will continue throughout the implementation stages of both cooperative agreements.

The HRSA program focuses primarily on hospitals, the establishment of regional hospital planning and, to the extent funding is available, on the EMS and outpatient communities. The CDC program focuses more

on state and local health department capacities, but will also add support for statewide integration of all public health related preparedness programs.

Considerable overlap occurs between the two funding sources and this has resulted in MDPH dividing where possible the responsibility and the funding between the two agreements, with attention given to the relative funding size, complexity and focus-area differences between the two programs.

- For example, both HRSA and CDC require planning for stockpile distribution. A part-time pharmacist will be hired to carry out the Medication/Vaccine requirements of this HRSA First Priority Planning Area, and this individual will work closely with the individuals who will be coordinating the more comprehensive NPS planning and response required under the CDC cooperative agreement.

- Similarly, Training Needs are a major component of both programs, and substantially more funding is available through Focus G of the CDC program. Needs Assessments for hospital, EMS and other HRSA-related personnel training will take advantage of the surveys and information gathered from both program assessments.

The MMRS programs to be carried out in Springfield and Worcester have not yet been established but planning will be carried out jointly as they are rolled out. The Boston MMRS has been in existence for three years and has received approximately $550,000 to complete its work. The new MMRS projects) are in the process of being established and each will receive $400,000 once their plans have been approved. MDPH reviewed and approved the planning documents submitted this week by the two cities as a pre-requisite for the awards. This is particularly important for certain areas such as the benchmark to establish an additional 500 patient treatment capacity per region, and plans for pharmaceutical stockpiles, since these are required components of both the HRSA and MMRS agreements. The three MMRS agencies in Massachusetts have been included on both the hospital and general bioterrorism preparedness committees set up as a result of the HRSA and CDC agreements.

Coordination and collaboration for all activities related to bioterrorism, infectious disease outbreaks and other public health emergencies exists as a result of the active participation of individuals, institutions, EMS services, health centers, providers, agencies and law enforcement personnel in many organizations with broad based memberships.

- HPPC: The composition of the HPPC described in Section C. 2. demonstrates representation of all agencies and organizations needed to provide the full-range of knowledge and expertise about emergency planning and response, and well as the technology and science necessary to mount a successful defense against biological, chemical and radiological events – whether natural or a result of a terrorist attack.

- Mutual aid agreements exist within the public safety and first responder communities, and Massachusetts is a member of the New England Emergency Compact for the purposes of Emergency Response (MEMA is the lead agency).

- Regional EMS planning through five Regional Councils has existed for over twenty years. The HRSA and CDC projects will establish comparable regional planning mechanisms for hospitals, health centers, clinics and local public health agencies.

- MHA Collaboration: MDPH proposes to contract a portion of the funds to the Massachusetts Hospital Association (alone or in combination with other suitable health provider or health data contract organizations) for coordination of the efforts that are essential for a comprehensive needs assessment, development and implementation of regional hospital planning activities, and the collection of data and information regarding facility preparedness across a wide spectrum of community-based agencies and facilities, and across service delivery sectors ranging from EMS and hospitals to mental health institutions and the poison control center in Massachusetts. The collection and analysis of aggregated data and information will allow the HPCC and MDPH to further refine specific needs in each priority planning area, as well as in each region, and priorities for funding.

Specific protocols, policies and resources that require funding for development and implementation will be identified. (OBJECTIVE)

MHA is a voluntary, not-for-profit organization comprised of hospitals and health systems, related organizations, and other members with a common interest in promoting the health of the people of the Commonwealth. Through leadership in public advocacy, education, and information, MHA represents and advocates for the collective interests of its member hospitals and health systems, and supports their efforts to provide high quality, cost effective, and accessible care.

MHA's core membership is made up of community, teaching, chronic, rehabilitation, and psychiatric hospitals. More than 125 Massachusetts hospitals and health systems belong to the association, as do interested individuals from among the staff and employees of these organizations. In addition to hospital members, MHA includes non-hospital providers such as nursing homes, extended care facilities, infirmaries and clinics, and visiting nurse associations.

Since September 11, the Mass. Hospital Association has taken a leadership role related to bio-terrorism preparedness for Massachusetts hospitals. MHA has served as the central point of communications with state officials to coordinate the hospital community's preparedness activities.

MHA will designate a senior staff person to oversee the association's activities under the grant. Senior MHA staff have had extensive experience collaborating with the MDPH and other organizations on a variety of initiatives, including disaster readiness activities. After an assessment of resources needed to support staffing, administrative assistance, equipment, and supplies for the regional planning and coordination process is conducted appropriate staff and/or consultants will be hired. Other sources of expertise will be consulted as necessary in the development of a statewide plan.

Other sources federal and state funding are utilized in the overall planning and preparedness for public health emergency response activities.

- State funding and planning for EMS 2000 ($1.38 million in FY 2002) will be integrated and accounted for in the development of final planning documents. Funding for EMS 2000 implementation is directly related to a number of these initiatives, such as trauma center designations and trauma system development, service zone planning and the provision of partial funding for fundamental operation of the five existing EMS regions and C-MED centers.

- The MDPH also was awarded received a $575, 000 award from SAMHSA (Substance Abuse and Mental Health Services Administration) to respond to post 9/11 events; all of the activities are being coordinated with a similar grant to the Department of Mental Health. The grant is supporting the development of materials and approaches for helping the entire population deal with the threats of terrorism and the anxiety of living in an unsettled world. A special focus for this work includes children and youth, parents, elders, individuals with prior trauma, individuals with disabilities and individuals from various ethnic backgrounds. The joint workplan includes the following: development of a website on mental health and substance abuse resources, crisis training, support of behavioral specialists in school settings, regional meetings between substance abuse providers and service programs for domestic and sexual violence, and development of materials for personal and family emergency planning. A state summit conference for mental health and substance abuse responses to a crisis, tailored after the national one held in New York City for all states in November, will be held in the fall.

- MDPH receives no other funding specifically for hospital or EMS Emergency Preparedness planning, particularly related to bioterrorism, other than the $1.7 million funds allocated by CDC over the past three years for state laboratory and epidemiology/surveillance developmental programs.

MDPH bioterrorism preparedness programs are integrated with other disaster preparedness through the ESF-8 component of the overall statewide comprehensive emergency response plan.

- As a vital member of the Massachusetts Emergency Management Team (MEMT), and the agency responsible for carrying out ESF-8, the Department is involved with planning, preparedness, and response activities for various other types of disasters, both natural and manmade, These activities directly interface with and support bioterrorism planning and preparedness, especially in areas of roles and responsibilities, operations and communications.

- Key staff from both the HRSA and CDC programs will be added to the statewide MEMT to ensure that the bioterrorism plans are connected and integrated with other disaster plans. Particular focus will be directed to ensuring integration with the NPS Plan. (OBJECTIVE)

- The bioterrorism plan will draw from the disaster planning that is already in place and be developed with consistency and integration as explicit goals. Bioterrorism planning will also interface with disaster planning being conducted at the regional and local levels. Guidance documents for prehospital EMS providers and for local health departments to support planning at the local level around MCIs and infectious disease outbreaks are currently under development. These planning initiatives will be integrated with the bioterrorism planning effort. The regional boundaries established for bioterrorism planning will be consistent wherever possible with the boundaries established for other disaster plans.

- Priority will be given to ensuring that the preparedness coordination (and to the extent possible, regional boundaries) for the local health, hospital and EMS communities, are fully integrated all other federal and state and regional disaster response programs.

3. System Development

Costs for planning, coordination and infrastructure that are specifically associated with the new initiatives proposed under the HRSA agreement will be provided to the extent possible through use of allocated federal funds. Overall directions and oversight of both HRSA and CDC programs is being provided by the three existing Assistant Commissioners, none of whom will be funded for salaries from the new HRSA or CDC agreements.

New MDPH staff hired under the cooperative agreements will be integrated with existing MDPH programs. The bulk of the funding (80%) will be contracted directly hospitals, EMS and coordinating entities directly to provide improvements in their capacity to respond to bioterrorism- related events in Massachusetts. The MDPH proposes to contract a portion of the funds to the Massachusetts Hospital Association (alone or in combination with other suitable health provider organizations) for coordination of the efforts described in earlier sections.

It is difficult to predict the future with respect to the availability of new state funding for public health related emergency planning and preparedness. It is hoped that planned federal initiatives included in the federal FY 2003 budget will be available for allocation to the state and local agencies, as well as to hospitals and other essential partners in the provision of emergency response. Massachusetts has always had a significant commitment to emergency planning and preparedness from an emergency management and public safety perspective. Last fall, an Office of Commonwealth Security was established and bioterrorism has been its initial priority focus. All state agencies are members of the Massachusetts Emergency Management Team, and there is a statewide commitment to collaborate with other agencies on issues of mutual importance. Compensation has not driven the representation of particular groups. New commitments specifically identified as a priority during this project will necessitate the allocation of funds for these initiatives, either now or in the future

4. *Legislation and Regulation:* (OBJECTIVE)

The Department of Public Health has been reviewing the current statutory authority with respect to authorization for healthcare personnel to execute emergency public health measures, and liability protections for these individuals, as well as those included in the Model Health Powers Act and a bill filed in the state legislature based on this Act. In addition, review of these issues will be undertaken with the boards responsible for registration of physicians, nurses, and other healthcare providers to ensure that

the necessary measures are either currently available under existing law and regulations, or will be enacted or promulgated. Credentialing by hospitals will be reviewed with the Massachusetts Hospital Association. Existing assessments of the public health system's capacity to determine response status of the state and local public health systems will be incorporated in this review.

Adjacent states will be contacted regarding the establishment of reciprocity agreements for the credentialing, licensure and delegation of authority for executing emergency public health measures by healthcare personnel as well as for liability protections for such personnel.

The Department of Public Health currently certifies EMTs and determines the scope of their practice. Current statutory and regulatory authority with respect to EMT practice will be reviewed to evaluate the potential for EMS personnel to administer medications or immunizations under existing authority and to determine what changes are necessary to afford appropriate authority with respect to these activities.

G. LETTERS OF SUPPORT:

Attached to this document (Attachment E) are letters of support from the following organizations:

Massachusetts Hospital Association
Massachusetts Office of Emergency Medical Services
Massachusetts Office of Rural Health
Massachusetts Emergency Management Agency
Conference of Boston Teaching Hospitals
Massachusetts Medical Society
Massachusetts League of Community Health Centers
Bay State Medical Center
Home and Health Care Association of MA
Massachusetts Nurses Association
Massachusetts College of Emergency Physicians
Association for Professionals in Infection Control and Epidemiology
Regional Centers for Poison Control and Prevention
Massachusetts Public Health Association
Massachusetts Association of Public Health Nurses

H. BUDGET:

The Budget narrative is attached a separate file, and has been integrated to cover both Phase 1 and Phase 2 Planning and Implementation activities for the full award amount. It should be noted that the budget plan and timelines cover an 18-month period in order to have the HRSA and CDC workplans fully synchronized.

Allocations of funds to hospitals and collaborating entities will be through written contractual agreements.

I. ***DATA COLLECTION, QUALITY IMPROVEMENT AND REPORTING*:**

***Note: Letters of Award for Phase 1 were received March 30th and it is expected that it will take several weeks for a new account to be established and several additional weeks for contracts to be established. At this point, we are predicting May 15 – June 1 start dates for most work that involves either new contracts or new hires. All timelines therefore begin June 1st. If resources become available sooner than June 1st, or it is determined that a task can be completed with existing personnel, the timelines will be adjusted accordingly.

Measurable OBJECTIVES have been identified in the text of the proposal, and where available, timeframes for achieving the principal objectives have been identified below. These preliminary objectives and timeframes (Attachment C) will be reviewed by the HPPC and any revisions deemed necessary will be submitted to HRSA by the end of Month 1 of the agreement.

It should be noted that some of the OBJECTIVES are actually not funded by this program, but are considered important to the success of this Hospital Preparedness program. These items are identified in the timeline with an asterisk (*).

For certain objectives, particularly the specific allocation of funding to the seven First and Second Priority Planning Areas (Sections D and E), funding and timeline estimates have been developed. These planning areas are, for the most part, dependent on the completion of the Needs Assessment process and in some cases on the development of Regional Plans. Once the Need Assessments have been completed, specific levels of funding and final timelines for each planning area will be confirmed. It is expected that some shifting between areas will occur.

Data collection systems established as a result of contracts (such as surveys under way, development and maintenance of emergency contact resource guides, data collected on hospital diversion and bed availability) will be centralized at the state level and will be integrated into statewide reports.

Surveys used in the initial establishment of needs assessments for hospitals, EMS and other providers will be augmented where necessary, and will be updated to measure improvements over time.

Semiannual reports will be submitted as required. Formal quarterly reports will be prepared for each OBJECTIVE identified in the final plan. This will include an evaluation of the timelines set for elements of the various objectives. The timeline document (Attachment C) follows the same Sections A-I outline as found in the guidance document and proposed implementation plan. The quality improvement plan will update and document the measurable objectives established for needs assessment, critical benchmarks, regional planning and first and second priority planning areas listed in this proposal, and provide a basis for continual review and revision of planning in order to improve emergency preparedness program. It is expected that reports will be tabulated on a quarterly basis.